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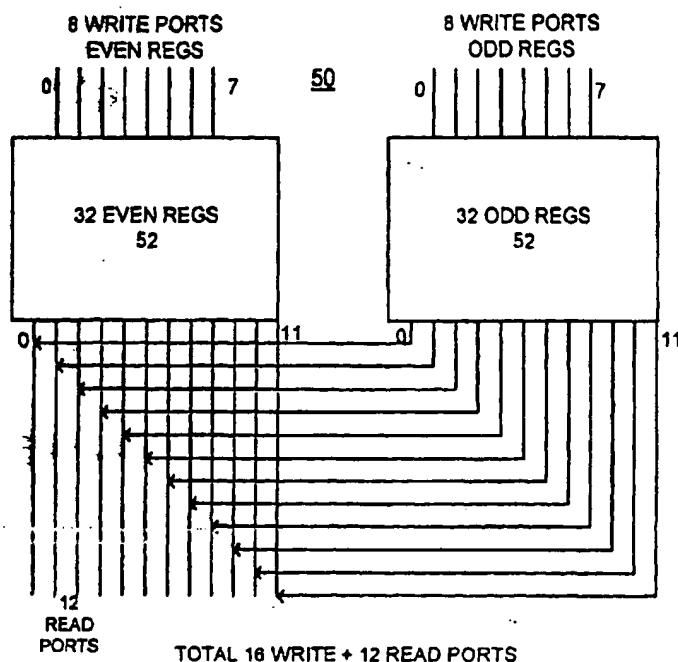
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**(54) Multiple port register file with interleaved write ports**

(57) A high speed register file is provided for use with Very Long Word Instruction (VLIW) and N-way superscaler processors. The high speed register file includes a selected number of copies of a general purpose register (GPR) building block. The GPR building block

includes at least two interleaved sub-banks of registers. Each of the sub-banks includes a number N of write ports and a number M of read ports. The sub-banks are interleaved by write ports and have non-interleaved read ports.

**FIG.1**

EP 0 745 933 A3



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## EUROPEAN SEARCH REPORT

Application Number  
EP 96 48 0056

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.8)
A	EP 0 325 310 A (PHILIPS NV) 26 July 1989 (1989-07-26) * column 7, line 51 - column 8, line 32 * ---	1,8	G06F9/30 G06F9/38
A	US 5 392 411 A (OZAKI SHINJI) 21 February 1995 (1995-02-21) * column 4, line 53 - column 7, line 46; figures 2,3 * ---	1,2,5,7	
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 692 (P-1663), 17 December 1993 (1993-12-17) & JP 05 233281 A (TOSHIBA CORP), 10 September 1993 (1993-09-10) * abstract * -----	1,3,4,9	
			TECHNICAL FIELDS SEARCHED (Int.CI.6)
			G06F
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>30 November 2000</b>	Examiner <b>Daskalakis, T</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 96 48 0056

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30-11-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0325310 A	26-07-1989	NL 8800053 A	01-08-1989
		DE 68909425 D	04-11-1993
		DE 68909425 T	07-04-1994
		ES 2047103 T	16-02-1994
		FI 890066 A,B,	12-07-1989
		HK 20295 A	24-02-1995
		JP 1217575 A	31-08-1989
		US 5692139 A	25-11-1997
		US 5103311 A	07-04-1992
US 5392411 A	21-02-1995	JP 2823767 B	11-11-1998
		JP 5282147 A	29-10-1993
JP 05233281 A	10-09-1993	US 5530817 A	25-06-1996

EPO FORM P449

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82